

**ROBUST SUMMARY**  
**ALKYL SULFIDE CATEGORY**  
**CAS # 68515-88-8**  
**HEALTH ELEMENTS: ACUTE TOXICITY**

<b><u>Test Substance</u></b>	
CAS #	CAS# 68515-88-8
Chemical Name	Pentene, 2,4,4-trimethyl-, sulfurized
Remarks	97% purity This chemical is also referred to as trimethyl pentene derivative in the HERTG's Test Plan for Alkyl Sulfide Category. For more information on the chemical, see Section 2.0 "Chemical Description of Alkyl Sulfide Category" in HERTG's Test Plan for Alkyl Sulfide Category.
<b><u>Method</u></b>	
Method/Guideline followed	Consistent with EPA Health Effects Guideline OPPTS 870.1300
Test Type	Acute inhalation toxicity
GLP (Y/N)	Y
Year (Study Performed)	1988
Species/Strain	Mouse (CD-1 Cobs Swiss Albino) Rat (Sprague-Dawley CD) Guinea pig (Hartley)
Sex	Male and female
No. of animals/sex/dose	5 animals/sex/dose
Vehicle	Mineral oil-based material, dosed as supplied
Route of administration	Aerosol inhalation
Dose	4.3 mg/L (Limit study)
Remarks field for test conditions	Group of five mice/sex, five rats/sex and five guinea pigs/sex were exposed for 4 hours to the test material as a liquid droplet aerosol generated by a Laskin nebulizer apparatus delivered into a plexi-glass chamber. Also, control groups of mice, rats and guinea pigs were exposed to mineral oil in the same manner as the test-material-exposed group except that the test material was not administered. The details of the whole body exposure are consistent with those described in EPA Health Effects Guideline OPPTS 870.1300. The actual exposure concentration as measured by gravimetric analysis was 4.3 mg/L. Particle size analyses were performed once/hour from the test material chamber using a cascade impactor. Animal observations for toxicological signs and mortality were recorded every 15 minutes during the exposure, and twice daily for the 14-day observation period. Individual weights were recorded on the day prior to exposure and on days 2, 3, 5, 8 and 14. At the conclusion of the observation period, the surviving animals were euthanized by exsanguination under general anesthesia. All animals were subjected to gross necropsy (nasal passages, trachea, external surface, all orifices, the cranial cavity, the brain and spinal cord, and all viscera).

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<b><u>Results</u></b>	LC50 (mice) > 4.3 mg/L; LC50 (rat) < 4.3 mg/L; LC50 (guinea pigs) > 4.3 mg/L
<b><u>Remarks</u></b>	The test animals received an average analytical exposure concentration of 4.3 mg/L test material with a nominal exposure concentration of 100 mg/L. Particle size distribution measurements showed an average mass median aerodynamic diameter of 3.8 microns with an average geometric standard deviation of 1.9 microns. Approximately 93 percent of the aerosol was 10 microns or less in size. Mortality and physical observations: Three female rats dies within a day after exposure. A single male mouse and a single male guinea pig also died on test days 7 and 9, respectively. All other animals survived the duration of the study. Observations noted during exposure included nasal discharge, salivation, closed eyes and wet fur. Signs exhibited by the rats upon removal from the camber and during the two-hour post-exposure observation period on day included numerous secretory responses, labored breathing, rales and wet fur. Also, several of the females showed tremors. One of the female rats dies two hours after exposure. The mice and the guinea pigs were generally unremarkable except for contaminated fur. Two additional rats were found dead the morning after exposure. The surviving rats (both sexes) continued to show responses without a complete recovery during the 14-day post-exposure observation period, including nasal discharge, labored breathing, rales, and contaminated fur leading to alopecia. Body weight: Significant body weight losses were observed following exposure among all three species. The surviving mice and rats began to recover weight within a week after exposure. However, guinea pigs continued to lose weight throughout the first week and did not show a weight gain until the end of the second week. Gross post mortem observations: Discoloration of the lungs and nasal turbinates was noted among the spontaneously dying animals.
<b><u>Conclusion</u></b>	LC50 (mice) > 4.3 mg/L; LC50 (rat) < 4.3 mg/L; LC50 (guinea pigs) > 4.3 mg/L
<b><u>Data Quality</u></b>	Reliable without restriction (Klimisch Code)
<b><u>References</u></b>	This robust summary was prepared from an unpublished study by an individual member company of the HERTG (the underlying study contains confidential business information).
<b><u>Other</u></b>	Updated: 12-27-99